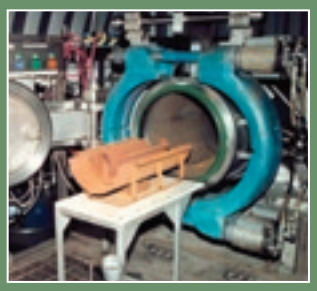


CHEMICAL MATERIALS AGENCY PROGRAMS

AT THE PINE BLUFF ARSENAL

CREATING
A SAFER
TOMORROW
TODAY

CMA

OUR COMMITMENT TO YOU:
SAFETY FOR OUR WORKERS, OUR COMMUNITY AND OUR ENVIRONMENT

PINE BLUFF ARSENAL AND PINE BLUFF CHEMICAL ACTIVITY

AT THE PINE BLUFF ARSENAL, we have been dedicated to safely storing and maintaining ammunition since World War II. To the thousands of people who devoted their working lives to this mission during the past 65 years, we offer our thanks.

THIS IS A STORY OF EXPERIENCE—how the U.S. Army and its contractors safely destroyed millions of pounds of chemical agent at disposal facilities across the United States and on Johnston Atoll in the Pacific.

THIS IS A STORY OF DEDICATION—how hundreds of talented women and men from Jefferson County and surrounding counties in Arkansas and the nation applied their expertise to work on the various missions at the Pine Bluff Arsenal.

THIS IS A STORY OF COOPERATION—how a proud work force is moving forward, shoulder-to-shoulder, with the community surrounding the Pine Bluff Arsenal. Without such strong support from the citizens and the emergency preparedness community, we could not have achieved so much.

THIS IS A STORY OF SAFETY AND SECURITY—how making this Arsenal and disposal facility safe for our workers, our community and our environment remains our top priority.

We are pleased to be progressing with chemical agent disposal operations. We have fine-tuned the systems at the Pine Bluff Chemical Activity to work at maximum efficiency during disposal operations. Join us in looking forward to the day we complete our operations at the Pine Bluff Chemical Activity and continue the missions at the Pine Bluff Arsenal. It is an honor to share this legacy.

PINE BLUFF ARSENAL

The Pine Bluff Arsenal (PBA) was established November 3, 1941, by the then U.S. War Department Chemical Warfare Service, and today is under the U.S. Army Chemical Materials Agency. PBA's original mission was to manufacture and assemble incendiary munitions. Over the years, the Arsenal's mission has expanded to make it unique among Army installations.

ADDING MISSIONS OVER DECADES

During World War II, the manufacture, loading and storage of chemical warfare agents and the filling of smoke and white phosphorus (WP) munitions became a primary mission at PBA. A biological weapons mission was added in 1953 and continued until 1969. Following the United States' 1969 unilateral ban on the production of chemical and biological agents, all biological warfare agents were destroyed. In 1978, PBA was selected as the site for a binary chemical agent production facility. That program remained active until 1990 when an international treaty mandated its end. A unique project for disposal of the obsolete chemical agent BZ was initiated in 1979 and spanned a decade.

PINE BLUFF ARSENAL TODAY

Today, PBA produces, stores and demilitarizes conventional ammunition. It serves as the group technology center for illuminating and infrared munitions and serves as the specified mission facility for smoke munitions. PBA is also the only place in the Northern Hemisphere where WP munitions are filled. In late September 2005, Arsenal officials signed a $20 million contract for modernization of the WP production facility. This project is one of the largest investments in PBA's industrial capacity since the early 1980s.

PBA supports the safe storage and destruction of the second-largest U.S. chemical weapons stockpile at the Pine Bluff Chemical Activity (PBCA). The Pine Bluff Chemical Agent Disposal Facility (PBCDF) is designed to destroy the chemical weapons stored at PBA. PBCDF construction was completed in 2002, and the Army began chemical weapons disposal in 2005. PBA also supports PBCA and PBCDF by enforcing international treaty efforts through compliance with and education of international treaty inspectors.

In September 2005, the Department of the Army designated PBA as a Center of Industrial and Technical Excellence for chemical and biological defense equipment. Under this designation, PBA will be a working capital-funded activity allowed to manufacture or remanufacture and sell products and services to other government agencies and the private sector. PBA is also a joint services center of expertise for chemical/biological defensive equipment production, maintenance, testing, certification and training. It supports design agencies with development and engineering, prototype production, testing and demonstration of chemical/biological protective equipment.

The Pine Bluff Arsenal Materiel Readiness Center supplies specialized production, storage, maintenance and distribution of readiness products and delivers technical services to the war fighter and homeland defender, providing quality and value by responding to customers' needs.

PBA is the only active Army installation in Arkansas.

For more information visit:
www.pba.army.mil

PBA AWARDED M40 MASK PROGRAM

In August 2006, the Department of Defense awarded PBA the M40 mask program—all aspects from creation to refurbishment. This $100 million program will be carried out for approximately the next 10 years. First article testing on newly produced masks is expected to be conducted in March 2007.

PINE BLUFF: CREATING A SAFER TOMORROW

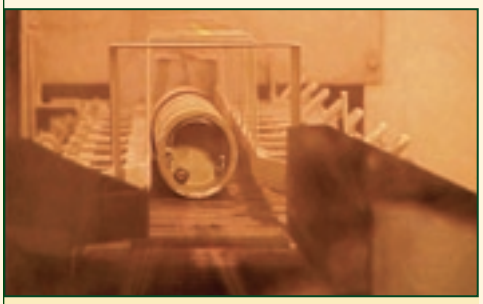
HISTORY

In 1985, the U.S. Congress passed Public Law 99-145, requiring the Department of Defense to dispose of its chemical weapons. As a result, the Army's Program Manager for Chemical Demilitarization was formed with the sole task of safely eliminating the entire stockpile. In 1997, the United States signed the International Chemical Weapons Convention (CWC) treaty. This agreement required the United States to destroy its chemical weapons stockpile by the April 29, 2007, deadline. Recently, the United States was granted a five-year extension under the CWC to complete destruction of its stockpile by 2012. A host of other nations also have signed the treaty, which calls for the destruction of all chemical weapons in the world, as well as prohibiting the use, stockpiling or production of chemical weapons.

For decades, the Army has studied numerous technologies for destruction of these chemical warfare agents. Due to the completeness of the incineration process and its ability to handle all agent types and munition configurations, incineration was deemed the best proven technology to safely eliminate the stockpile while ensuring maximum protection of the workers, the community and the environment. In 1984, the incineration process also was recommended and endorsed by the independent National Research Council (NRC) as the safest process currently available to destroy the stockpile. In 1994, the NRC conducted a follow-up study and again recommended incineration as the safest technology to destroy the stockpile. This recommendation was reinforced by the Centers for Disease Control's recommendation to use the incineration process.

PINE BLUFF CHEMICAL ACTIVITY

Approximately 12 percent of the nation's original stockpile is stored at the Arsenal. The inventory includes nerve agent GB-filled rockets, nerve agent VX-filled rockets, nerve agent VX-filled land mines and blister agent HD/HT-filled bulk containers. The Pine Bluff Chemical Activity (PBCA), a tenant organization at PBA, is charged with the safe storage and elimination of the chemical weapons stockpile. Included in this mission is the monitoring of chemical weapons during storage, transport and elimination as well as ensuring that the entire process complies with the CWC treaty. The PBCDF is part of PBCA.



Pictured above is the first GB-filled rocket on a conveyor leading to the Deactivation Furnace System (DFS). The DFS is one of three furnace systems used in the disposal of chemical weapons.

U.S. CHEMICAL WEAPONS STOCKPILE SITES

This map represents the eight chemical weapons stockpile sites in the United States. Indicated on the map key are the amount of chemical weapons that each site stores and the type of disposal technology being used at each site.

A **UMATILLA CHEMICAL DEPOT, ORE.—12%***
Technology: Incineration—began disposal 2004

B **JOHNSTON ATOLL—6%***
Technology: Incineration—completed disposal 2004

C **DESERET CHEMICAL DEPOT, UTAH—44%***
Technology: Incineration—began disposal 1996

D **PUEBLO CHEMICAL DEPOT, COLO.—8%***
Technology: Neutralization—design/construction under way

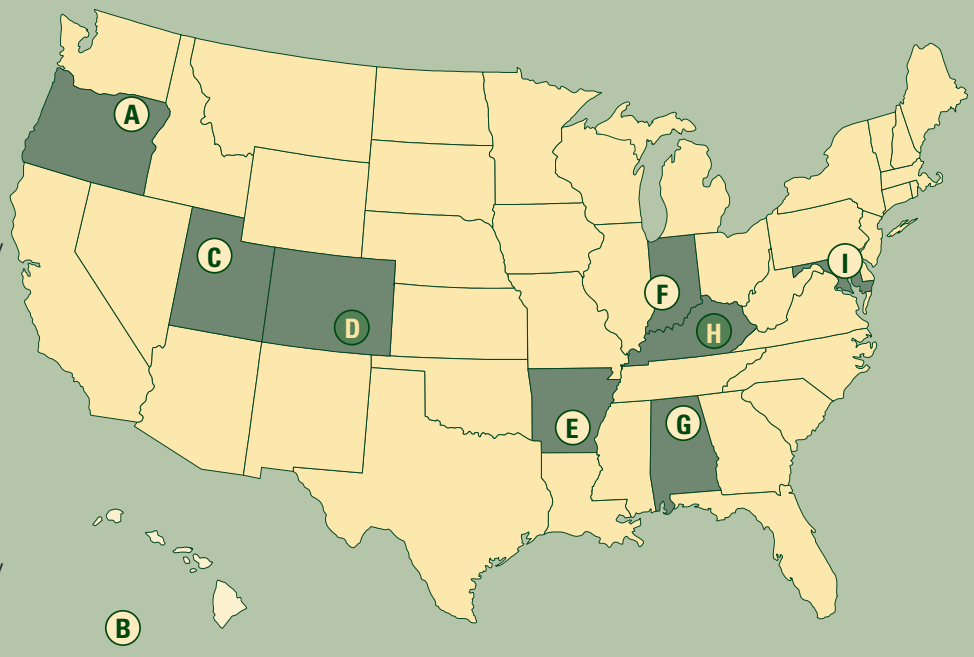
E **PINE BLUFF ARSENAL, ARK.—12%***
Technology: Incineration—began disposal 2005

F **NEWPORT CHEMICAL DEPOT, IND.—4%***
Technology: Neutralization—began disposal 2005

G **ANNISTON ARMY DEPOT, ALA.—7%***
Technology: Incineration—began disposal 2003

H **BLUE GRASS ARMY DEPOT, KY.—2%***
Technology: Neutralization—design/construction under way

I **ABERDEEN PROVING GROUND, MD.—5%***
Technology: Neutralization—completed disposal 2005



*Approximate percentage of original U.S. stockpile

The Colorado and Kentucky chemical stockpile destruction programs are managed by the Department of Defense's Assembled Chemical Weapons Alternatives program.

Pictured above is the Pollution Abatement System (PAS). The PAS consists of individual filtration systems for each of the three furnaces used in the disposal process.

PINE BLUFF CHEMICAL AGENT DISPOSAL FACILITY

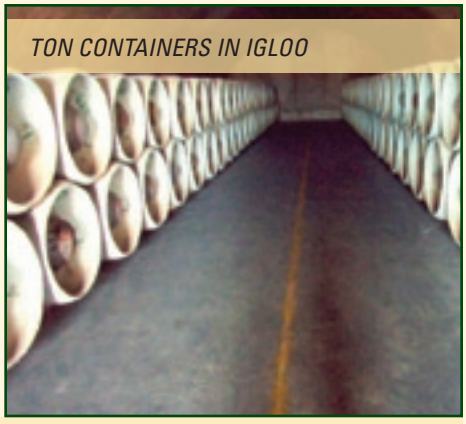
The Army began PBCDF construction in January 1999, following the issue of regulatory permits by the Arkansas Department of Environmental Quality (ADEQ). The permits were issued only after the ADEQ thoroughly reviewed the Army's permit application and ensured the health and safety of the PBCDF workers, the public and the environment. An appeal of PBCDF's permitting was filed in January 1999. The permits were affirmed in May 2000, after the Arkansas Pollution Control and Ecology Commission adjudicatory hearing in September 1999. Further appeals advanced to the Arkansas State Supreme Court, which upheld the permitting in October 2003.

PBCDF construction was completed in November 2002. The PBCDF site covers 26 acres with construction encompassing the former BZ Destruction Facility site. PBCDF invested more than 11 million hours constructing, testing and training in preparation for disposal operations. The testing and training phases were completed in 2005. Operations began March 2005 and will require a minimum of five years. Closure will begin immediately after operations are completed, with an estimated duration of two years. Between 700 and 800 contractor workers are expected to be employed at PBCDF during disposal operations.

ELIMINATING THE STOCKPILE

Eliminating the stockpile involves separating the components of the munitions—liquid agent, explosives and metal parts—using a controlled and automated system. Each component is disposed of in its own incinerator with its own pollution abatement system, which thoroughly cleans emissions at levels required by federal and state regulations. To ensure the protection, safety and health of the workers, the community and the environment, operations are conducted using strict environmental controls with redundant safeguards. PBCDF also works closely with regulatory and oversight agencies to ensure the safest, most environmentally compliant disposal operations.

For more information visit:
www.cma.army.mil



After eliminating nerve agent GB-filled rockets, PBCDF will eliminate the nerve agent VX-filled rockets, nerve agent VX-filled land mines and blister agent HD/HT-filled bulk containers.

CHEMICAL AGENT MONITORING

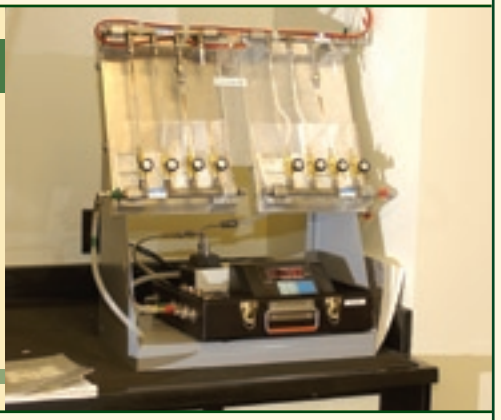
More than 230 chemical agent monitors are placed in and around the PBCDF and in its exhaust stacks, with anywhere between 26,000 to 43,000 samples taken daily. Near-real-time monitors continuously sniff the air and give a reading within minutes to check for chemical agents. Other monitors collect samples over a longer period of time to help confirm readings of the near-real-time monitors.

AUTOMATIC CONTINUOUS AIR MONITORING SYSTEM (ACAMS)

The Automatic Continuous Air Monitoring System is the primary monitor used in the Army's chemical weapons disposal program. Installed inside and around the footprint of the PBCDF, about 90 of these near-real-time monitors sample the air every three to five minutes, 24 hours a day, with each air sample analyzed and the results visually displayed. Using a process called gas chromatography, these monitors can detect extremely low levels of chemical agent. Any detection exceeding allowable levels triggers local and remote audible and visual alarms.

DEPOT AREA AIR MONITORING SYSTEM (DAAMS)

About 140 Depot Area Air Monitoring System units continually sample the air for chemical agent by drawing the air through special glass tubes and trapping any chemical agent in a special material. Sampling times vary from every few minutes to 12 hours. The tubes are collected and analyzed by the monitoring laboratory to confirm readings from the ACAMS monitors. DAAMS are also used to provide a historical record for areas not monitored by the near-real-time monitors.



REAL TIME ANALYTICAL PLATFORM (RTAP)

The Real Time Analytical Platforms are fully functional mobile monitoring vehicles with equipment that samples and analyzes ambient air to detect the presence of nerve or mustard agents. The Arsenal uses nine RTAPs, primarily in its chemical storage areas. They are capable of 24-hour operations and analyze accurately for nerve or mustard agent, rapidly verifying and confirming the results on site in approximately one-half hour. PBCDF uses one RTAP, equipped with two ACAMS, to support demilitarization operations.

WASHINGTON GROUP INTERNATIONAL

Washington Group International, the systems contractor for PBCDF, began construction of the disposal facility in January 1999 and completed that phase of the project in November 2002. Washington Group International is the contractor responsible for the ongoing operations and ultimate closing of the facility.

In addition to PBCDF, the Army also chose Washington Group International as their contractor to operate chemical agent disposal facilities in Umatilla, Ore., and Anniston, Ala.

The Boise-based company successfully constructed and closed the Johnston Atoll Chemical Agent Disposal Facility, located 825 miles west-southwest of Honolulu. It was the first facility of its kind.

Because of decades of experience safely managing and eliminating waste at nuclear, hazardous and former nuclear weapons facilities in the United States, Washington Group International is a global leader in providing services to other government and industrial clients.

Washington Group International provides the talent, innovation and proven performance to deliver integrated engineering, construction and management solutions for businesses and governments worldwide.

For more information visit: *www.wgint.com*

SOUTHWEST RESEARCH INSTITUTE

Southwest Research Institute (SwRI) is an independent, nonprofit applied research and development organization that employs 100 employees at PBCDF. SwRI's role is to continuously monitor the air for the presence of chemical agents in and around the disposal facility.

SwRI strives to provide clients with creative and efficient research, engineering and test services in a manner that reflects high professional and ethical standards. SwRI is committed to protecting the environment and conserving natural resources through efficient use of resources and by providing a safe, healthy environment for its employees, customers and neighbors.

For more information visit: *www.swri.org*

CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM

The Chemical Stockpile Emergency Preparedness Program (CSEPP) has made great strides in enhancing the emergency preparedness of the Arkansas counties of Jefferson, Grant, Arkansas, Cleveland, Dallas, Lincoln, Lonoke, Prairie, Pulaski and Saline. Take a look at some of the ways CSEPP has helped area communities:

PLANNING AND TRAINING

Emergency plans, including the most recent addition of response and recovery, are in place at PBA, the CSEPP counties and the state to ensure emergency responders are prepared for a chemical emergency at PBA. Emergency responders and managers have completed chemical awareness, medical treatment and/or decontamination training. Emergency managers, firefighters, police officers, medical teams, school officials, hazardous materials response teams, the American Red Cross, several state agencies and the Army train together annually to test their response capabilities. More than 2,800 emergency responders have been trained to date. The off-post community also is invited to participate in the Arsenal's quarterly exercises.

Training exercise: Sites and participants are staged to make the exercises look as close to real life as possible.

PUBLIC EDUCATION

A media campaign including calendars, brochures, public service announcements, videos and other educational material provides the public with useful information on what to do before as well as during an emergency. Public education programs teach children and adults how to stay safe in the event of a chemical accident at PBA. Public information specialists from state and county emergency management offices and the Army are prepared to answer any questions concerned citizens may have. In addition, a CSEPP Mobile Information Center is outfitted to take information to local fairs and other events.

FACILITIES

PBA has a 24-hour Emergency Operations Center (EOC) and a full-time meteorologist that support CSEPP efforts in the community.

County EOCs and the Arkansas Department of Emergency Management are staffed and equipped to coordinate response activities. Recent updates include:

- Renovation and enlargement of the Grant County EOC
- Renovation and enlargement of the Lonoke County EOC
- Enhanced emergency management offices for all the CSEPP counties and the state

A Joint Information Center (JIC) in Jefferson County is equipped to provide timely information to the public and the media during an emergency. The Army, Jefferson County, Grant County, the state of Arkansas and other organizations are represented at the JIC.

Training exercise: Through the CSEPP program, responders have been trained to identify chemical exposure symptoms, decontaminate people and give appropriate first aid.

Children learn about emergency preparedness by visiting the Arsenal fire department.

White Hall High, White Hall Junior High and Moody Elementary schools are equipped with over-pressurization systems to keep students and teachers safe if evacuation is not possible during a chemical accident.

EQUIPMENT

- 63 outdoor warning sirens with voice messages in Jefferson and Grant counties
- 15,000 indoor tone-alert radios for homes and businesses close to the Arsenal
- State-of-the-art communications with backup systems—including computerized emergency management systems, radio systems and dedicated telephone systems—designed to help response officials coordinate information about an emergency
- Highway messaging boards
- 2,000 sets of protective clothing available for off-post emergency responders
- 23 medical facilities equipped to treat people during a chemical emergency
- 26 mobile trailers to decontaminate anyone who may be exposed to chemicals during a chemical emergency
- Medical antidote and supplies provided to local hospitals

CSEPP has brought more than $94.8 million to Arkansas and the counties surrounding PBA in the first 15 years of the program. Another $27.1 million was provided to improve emergency response capabilities at PBA.

For more information visit: *www.arkansascsepp.com*

NON-STOCKPILE CHEMICAL MATERIEL PROJECT

Explosive Destruction System

Rapid Response System

Pine Bluff Munitions Assessment System

Ton Container Decontamination Facility

PBA safely stores, monitors and maintains former production facilities and other materiel classified as non-stockpile chemical materiel (NSCM). NSCM is chemical materiel separate from the nation's chemical stockpile. It includes buried chemical warfare materiel, non-lethal binary chemical munition components, recovered chemical warfare materiel, former production facilities and miscellaneous chemical warfare materiel.

The U.S. Army Chemical Materials Agency Non-Stockpile Chemical Materiel Project (NSCMP) studied multiple disposal alternatives under guidelines found in the National Environmental Policy Act, considering the potential environmental impact of various disposal options before selecting, with public input, the options now in place.

PBA's inventory includes all classifications of NSCM. Only 4 percent of PBA's recovered chemical warfare materiel came from off-post locations for safe storage and monitoring. Workers discovered the remaining recovered chemical warfare materiel during Arsenal environmental restoration or recovery activities.

NSCMP manages six operations at PBA. These activities cooperate in the destruction of the nation's largest known inventory of recovered chemical materiel.

SIX NSCMP ACTIVITIES AT PBA:

1. **Pine Bluff Munitions Assessment System (PBMAS)**—used non-intrusive assessment technology to identify the contents of PBA's Chemical Agent Identification Set (CAIS) items and recovered munitions. This mission was completed in September 2006.
2. **Pine Bluff Explosive Destruction System (PBEDS)**—a transportable treatment technology used to process recovered chemical warfare materiel. This mission will continue through 2007.
3. **Rapid Response System**—a transportable treatment technology used to process CAIS items. This mission was completed in November 2006.
4. **Explosive Destruction System at PBMAS**—an EDS unit stationed at PBMAS for the duration of the munitions assessment campaign to safely treat munitions. None required treatment and the mission was completed in September 2006.
5. **Pine Bluff Ton Container Decontamination Facility**—cuts and cleans the Arsenal's inventory of empty ton containers.
6. **Pine Bluff Binary Destruction Facility**—chemically neutralized the binary precursor chemicals DF and QL. This mission was completed in October 2006.

For more information visit: *www.cma.army.mil*

The former production facility of binary precursor chemicals. Destruction of the facility was completed in 2007.

OVERSIGHT AGENCIES

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

ADEQ is an Arkansas state agency headquartered in Little Rock with offices and area inspectors throughout the state. Its program responsibility is to oversee the safe storage of chemical weapons at PBCA and the safe and timely destruction of the chemical weapons at PBCDF. That role will continue until all chemical weapons have been destroyed, all secondary waste processed and the facility safely closed and dismantled. For more information, call (501) 682-0744. *www.adeq.state.ar.us*

CONGRESS

Oversight for chemical weapons storage, disposal and emergency preparedness is the responsibility of several U.S. House and Senate committees. In addition, studies conducted by the Government Accountability Office for Congress are available online. Type in the key words "chemical agent disposal" to retrieve reports. *www.gao.gov*

ENVIRONMENTAL PROTECTION AGENCY

The EPA provides oversight on all environmental aspects of the chemical agent disposal program. *www.epa.gov*

CENTERS FOR DISEASE CONTROL AND PREVENTION

The CDC receives and reviews all chemical agent monitoring data, reviews all proposed weapons disposal operations and certifies public and worker health and welfare. *www.cdc.gov*

An article on chemical agent incinerator emissions can be found at *www.cdc.gov/nceh/demil/articles/incinerator.htm*

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OSHA provides safety oversight for disposal plant employees and enforces safety regulations regarding worker safety and health. *www.osha.gov*

THE HENRY L. STIMSON CENTER

This independent, nonprofit, public-policy institute seeks and promotes innovative solutions to security challenges facing the United States and other nations, with a special interest in chemical, nuclear and biological weapons. *www.stimson.org*

THE NATIONAL ACADEMY OF SCIENCES

Appointed by Congress, the NAS provides independent scientific and technical advice, provides program oversight through the NRC and investigates program safety and performance. *www.nas.edu*

Two publications of interest can be found online:

- "Evaluation of Chemical Events at Army Chemical Agent Disposal Facilities," (2002) is available at *http://books.nap.edu/catalog/10574.html*
- "Effects of Degraded Agent and Munitions Anomalies on Chemical Stockpile Disposal Operations," (2004) is available at *http://books.nap.edu/catalog/10910.html*

CITIZENS' ADVISORY COMMISSION

The governor of Arkansas created the Arkansas Citizens' Advisory Commission to provide citizens an independent voice on matters relating to chemical weapons—storage, disposal and emergency preparedness.

Meetings are held bimonthly and typically include updates from PBCDF, ADEQ, Washington Group International, CSEPP and NSCMP. For more information on the meetings please contact Willie Adams-Mitchem at (501) 376-2443 or e-mail her at *wmitchem@excite.com*.

Inspectors reviewing documentation to ensure accuracy.

OUTREACH OFFICE FOR CHEMICAL DISPOSAL

WHERE CAN I GET MORE INFORMATION?

The Outreach Office for Chemical Disposal serves as a one-stop source for information about the Army's disposal operations for chemical weapons and materiel stored at PBA.

Outreach staff are available to answer questions about the disposal plans at PBCDF and NSCMP.

WHAT RESOURCES ARE AVAILABLE?

Many resources are available to the public at the Outreach Office, including:

- Munitions models and displays
- Video library
- Virtual tour of PBCDF
- Access to chemical disposal Web sites
- Public documents
- Fact sheets
- Technical studies/reports
- News clippings

WHAT CAN THE OUTREACH OFFICE PROVIDE?

One of the most valuable services offered by the Outreach Office is the Speakers Bureau. Learn more about the chemical weapons disposal programs from professionals with knowledge and experience. ORO staff can arrange for one or more program experts to address your civic group, organization, school, church or business.

If you are interested in having a representative from the project speak to your organization, please contact the Outreach Office:

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